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ABSTRACT

This paper, one of a series from the Western Interstate Commission for Higher Education's project "Higher Education and the Economy of the West," summarizes and analyzes economic development and higher education master plans in 16 western states, looking particularly at how planning for economic development and higher education articulate and finds disjunction. It sees higher education's view of its role as that of promoting broader access to education, providing career and job training relevant to future needs, and participating in product and market development. But economic developers look to higher education to educate a diverse workforce in increasingly sophisticated skills, provide necessary research and technical development assistance, participate in public/private partnerships for economic development, develop the potential of all educational sectors in relation to economic needs, and help attract new business and industry to the state. Separate statewide summaries of economic development and higher education plans are included for Alaska, Arizona, California, Colorado; Hawaii, Idaho, Minnesota, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming. An appendix notes methodology and lists state sources. (CH)

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HIGHER EDUCATION
and the Economy of the West

Working Paper #5

Joined or Unconnected?

A Look at State Economic Development and Higher Education Plans

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Working Paper #5

Joined or Unconnected?
A Look at State Economic Development and Higher Education Plans

Higher Education and the Economy of the West

Western Interstate Commission for Higher Education
P.O. Drawer P, Boulder, Colorado 80301-9752

Partial financial support was provided by The Ford Foundation

This is the fifth working paper for the WICHE project Higher Education and the Economy of the West. It is a summary and analysis of the most recent state higher education master plans and economic development plans in the 16 WICHE states.

The project focuses on an examination of the broad relationship between higher education and the economy and the ways in which higher education in the 16 WICHE states must change in order to be more responsive to the needs of the region in the 1990s and beyond.

The report was prepared by the Office of Research and Policy Analysis of the Western Interstate Commission for Higher Education (WICHE). Comments on the report should be addressed to Judith I. Gill, Director, Office of Research and Policy Analysis, WICHE, P.O. Drawer P, Boulder, CO 80301-9752, (303) 541-0224.

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FOREWORD

This working paper is part of the Western Interstate Commission for Higher Education's (WICHE) project "Higher Education and the Economy of the West," partially funded by The Ford Foundation. It presents a summary and analysis of the most recent state higher education master plans and economic development plans in the 16 WICHE states. The plans were reviewed with an eye toward noting how they relate to each other—that is, in what ways the statewide higher education plans articulate and address concerns with economic planning and development, and in what ways the economic plans articulate and address concerns with higher education planning and development.

Deborah Evans, policy analyst, had primary responsibility for summarizing the state plans and drafting the paper. Frank C. Abbott, senior adviser, provided editorial assistance. Denise Tregay, administrative secretary, assisted with the collection of the state reports, and Cherie Pedersen, senior secretary, prepared successive drafts.

WICHE gratefully acknowledges the many individuals in the WICHE states, including the State Higher Education Executive Officers (SHEEO) and the state Directors of Economic Development who provided the documents used in this paper.

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Director
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Western Interstate Commission for Higher Education
Boulder, CO
August 1992

This working paper is one of six publications resulting from the WICHE project, "Higher Education and the Economy of the West." Early in the project's development we recognized the need to understand the relationship each state made between higher education and the economy. We concluded that if there is a strong link that can be made between higher education and the economy, then a relationship should exist at the broadest statewide policy planning level. Our efforts to investigate this relationship began with a summary and analysis of the most recent state higher education master plans and economic development plans in the 16 WICHE states.

Project Assumptions

Three primary assumptions have guided this project. The first is that the definition of higher education's contribution to the economy must be broadened. Often higher education's relationship with the economy is viewed within the narrow constraints of technology transfer and business-university alliances. In redefining the relationship, we return to the classic definition of the economy: the well-being of the majority of a society's citizens. When using this definition, the contributions that higher education makes to the economy include its connection with the public schools, the quality of undergraduate education, outreach programs for diverse racial and ethnic populations and rural areas, as well as research and development, technology transfer, centers of excellence, and specialized training.

The second assumption is that state policies can strengthen the relationship between higher education and the economy. Higher education must, therefore, work in coordination with state government to meet state economic needs.

The third assumption places the project in the context of fiscal constraints. Action taken by states and their colleges and universities is limited by the current austere financial climate. And because of fiscal limitations, cooperation and differentiation among institutions are more important than ever before.

Change is perhaps the most pervasive and unifying theme of the project papers. As the economy rapidly becomes global and interactive, our nation's colleges and universities must be prepared to meet the challenges of a transformed economy. Higher education will be required to continue to advance technology through research, to make greater use of limited resources through increased collaboration with public and private sectors, to be responsive to workforce needs, and to maintain educational quality and access for as broad a population as possible. If higher education can be characterized as having responded to the economy by taking small steps in primarily one direction, WICHE is now advocating giant steps in some new directions. In the words of Clark Kerr, "The major

test of a modern American university is how wisely and how quickly it adjusts to important new possibilities.[1]"

WICHE's Perspective

Given its history of fostering regional cooperation, WICHE's inclination on this project was to look for ways in which higher education could work in concert with the public schools, business and industry, local and state government, and the community to meet emerging economic needs.

The WICHE Commissioners, representing 16 western states, determined the project agenda, particularly its policy focus. While the Commissioners adopted a regional policy perspective for this project, they also understood that blanket recommendations are not possible or practical. Rather, general direction and insights on regional changes should play a role in determining a state's higher education agenda.

Project Components

In order to set boundaries on a project of this size and scope, we began with a list of 10 critical issues that have an impact on higher education's role in the economy:

1. Quality Undergraduate Education
2. Higher Education and Public School Connections
3. Educational Progression of Racial and Ethnic Minorities
4. State Higher Education Funding Priorities
5. Alternative Educational Delivery Systems
6. International Education
7. Differentiation of Institutional Roles and Missions
8. Identification and Development of Academic Programs to Meet Workforce Needs
9. Higher Education Research
10. Strengthening the Relationship Among Higher Education, Government, and the Private Sector

The critical issues and the project activities—a collection of economic and educational data, survey of recent literature, sampling of exemplary programs, interviews with participants and observers of education, economic, and governmental systems, and a review of state economic development and higher education master plans—defined the project scope. As the various project activities were undertaken and after several conversations with higher education policymakers, the critical issues remained virtually the same but their focus changed to reflect what was learned. Individual project undertakings by themselves did not reveal fully the higher education-economy

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[1]Clark Kerr, *The Uses of the University With a "Postscript—1972,"* (Cambridge, MA: Harvard University Press), p. 108.

relationship; however, like pieces of a mosaic, when viewed as a whole, they became a powerful picture and allowed significant insight.

The following is a list of the working papers and the final report resulting from WICHE's "Higher Education and the Economy of the West" project. The working papers serve as a foundation for the final report—much of the policy analysis and observations in the final report are based on information from the five working papers.

- *A Region of Contrasts: An Educational and Economic Profile of the West (Working Paper #1)* is a presentation and analysis of demographic, workforce, and educational data for 16 western states. Data including employment by sector, educational attainment, foreign exports, and the location of higher education institutions in relation to population centers are examined at a regional level in Section One of the report. In Section Two, selected economic and educational characteristics are reported for each western state.

- *Exploring the Relationship: A Survey of the Literature on Higher Education and the Economy (Working Paper #2)* is a survey of recent literature on the relationship between higher education and the economy and a commentary on how this relationship can be enhanced. The paper addresses issues including the education challenges posed by a global economy, the essential education skills that workers will need, the role of technology in education and the economy, and infusing internationalism and multiculturalism into the educational experience. Publications by economists, education scholars, policy experts, government panels, and higher education and economic agencies are reviewed.

- *The Higher Education-Economy Tie: A Sampling of Exemplary Programs in the West (Working Paper #3)* is a review and analysis of more than 30 programs in the West that illustrate higher education's contribution to the economy. Programs fall into five categories: (1) school-university partnerships; (2) government-university initiatives; (3) small business outreach; (4) technology transfer and workforce training; and (5) rural or underserved population outreach.

- *Insights on the Higher Education-Economy Relationship: Interviews with the Stakeholders (Working Paper #4)* is a summary of interviews with a small group of knowledgeable and experienced participants and observers of education, economic, and governmental systems. The interviews sought their insight on what issues must be addressed if higher education is to be responsive to economic needs in the 1990s and the 21st century. The paper summarizes interview conversations and is organized around four general themes: planning for the future; responding to the public and serving a new student clientele; effective collaboration; and the relationship of curriculum reform to faculty productivity and rewards.

- *Joined or Unconnected? A Look at State Economic Development and Higher Education Plans (Working Paper #5)* is a summary and analysis of the most recent state higher education master plans and economic development plans in the 16 WICHE states. The plans were reviewed with an eye toward noting how they relate to each other—that is, in what ways the statewide higher education plans articulate and address concerns with economic planning and development, and in what ways the economic plans articulate and address concerns with higher education planning and development.

- *Meeting Economic and Social Challenges: A Strategic Agenda for Higher Education (Policy Recommendations)* is the final report of the project. It presents project conclusions and a series of recommendations to state legislators and higher education policymakers. Included in the policy options discussion are implementation issues and examples of states and institutions currently making the recommended policy changes.

I. INTRODUCTION

If there is a strong link between higher education and the economy of the western states, then higher education's effectiveness in responding to state economic needs depends, partly, on how education and economic development are related to each other at the broadest statewide policy planning level. This working paper looks at the existing statewide economic and higher education plans to see how they treat the relationship.

This paper summarizes 48 planning documents from the WICHE states. Most commerce/economic development departments provided statewide plans and reports, and some also sent program or promotional descriptions of the business opportunities in their states. Some economic development documents came from private sector groups engaged by a state to conduct studies and devise state vision statements or strategic plans. The review does not summarize every document provided by the states, only those that represent the most broadly comprehensive, most current statewide planning activities.

The documents were reviewed with an eye toward noting how they relate to each other—that is, in what ways the statewide higher education plans articulate and address concerns with economic planning and development, and in what ways the economic plans articulate and address concerns with educational planning and development. The emphasis on the education-economy relationship that dominates the summaries is, however, a distortion, and does not reflect the balance of issues and strategies in the plans themselves. In other words, these summaries give the impression that there is more focus on education than there is in the economic plans; that there is more weight given to economic goals than there actually is in the education plans.

Beyond very general vision or mission statements, the higher education documents pay relatively little attention to larger, external economic needs, demands, and conditions. Typically, they focus on higher education alone, looking inward to institutional issues rather than planning for higher education's participation in the state or regional economy. Several of the education plans, in fact, make no mention of general economic issues. While most of the economic development documents acknowledge the role of education in economic development, few of them include concretely developed plans for actually engaging higher education in the statewide economy, and some do not mention education in any way. The higher education and economic plans almost never refer to each other directly. Nor do they refer to the plans of other state departments that deal with issues of importance to education and the economy, such as public health, child nutrition, housing, public and domestic safety, or transportation.

The disjunction between education and economic planning does not necessarily indicate that policy planners and their staffs are unaware that there are important connections between education and the economy. The apparent lack of interdepartmental dialogue in the statewide planning documents results from several conditions, varying from state to state. Some states direct their agencies to develop independent materials, so that each department focuses only on its own activities; some state agencies are expected to react to very specific planning directives, focusing on issues or goals that are defined by their

legislatures; and some state departments are experiencing a period of severe budget cutbacks or indecision, which makes it unrealistic to undertake long-range, comprehensive planning and coordination among departments.

II. SUMMARY OF THE REPORTS AND PLANS

THE ROLE OF HIGHER EDUCATION IN THE ECONOMY

As Viewed by Higher Education

From the perspective of higher education, the roles that higher education can and should play in meeting statewide economic challenges are to (1) promote broader access to education; (2) provide career and job training pertinent to state economies of the future; and (3) participate in product and market development.

Access: In regard to improving access to education and intellectual development, most higher education plans emphasize the need to accommodate increasingly diverse student populations, mentioning goals such as increasing minority participation at all levels of postsecondary education; improving articulation among K-12, vocational, community and four-year institutions; offering educational opportunities to working adults and other "new majority" students; and expanding access through off-campus continuing education resources and distance delivery technology. Some plans link improving access with fine-tuning institutional diversity by clarifying missions and roles across a system, but most discussions of the economic importance of role and mission relate only to institutional efficiency and cost saving.

Career and job training: Many higher education plans recognize a responsibility to help educate and train the personnel who are expected to be needed for an advanced economy. System plans that encompass community college and vocational institutions often include programs to improve basic math, analytical, and communications skills; improve undergraduate education; provide career-oriented education in specific content areas related to the job market; and a variety of postsecondary training options. Other areas where higher education sees itself playing important roles in job preparation include public/private job training partnerships, research into K-12 and vocational education reform, and improved teacher training.

Product and market development: Higher education's contributions to economically important product development are acknowledged in some systems' plans to continue providing state governments and private industry with access to basic and applied research in industry-relevant sciences and technology, as well as technological expertise. Taking R&D a step further, many higher education institutions are increasing their efforts to participate actively in the commercialization of their research products, by developing partnerships and conducting joint research with particular industries. Some plans also see a role for higher education in market development, by supporting international studies and experiences that will enable their graduates and researchers to participate in an international marketplace.

As Viewed by Economic Development Departments

From the perspective of statewide economic development planning, the roles that higher education can and should play in state economic needs are to (1) educate an increasingly diverse workforce in increasingly sophisticated skills; (2) provide necessary research, development, information, and technical assistance in areas of economic importance; (3) participate in public/private partnerships directed toward economic development; (4) develop the potential of all educational sectors in relation to industry needs; and (5) attract new business and industry to the states.

Workforce education: Because of a rapidly growing sense of global competition, states want their workers schooled in internationally relevant skills and knowledge. Also, as western industries anticipate increasingly complex and sophisticated workplaces, they are looking for schools to produce graduates who possess sound basic skills and general education "core" knowledge, stronger skills in science and technology, and "higher order" thinking and learning (including "adaptability") skills. In relation to K-12 education, higher education's role lies in providing research in K-12 reform, and in training the teachers who will provide the children of the region with skills to compete in a global economy.

In setting policy for economic development, most state plans also recognize an impending need for job-specific training and retraining in diverse fields. Furthermore, in a time when social support services are becoming more and more stressed, some plans emphasize the importance of training people to become independent job seekers and entrepreneurs, involving higher education in teaching people how to obtain appropriate job counseling, training, and employment, as well as entrepreneurship, small business development, and management skills.

Research, development, information, and technical assistance: The economic development plans and reports most strongly emphasize higher education's role in product and process innovation, especially in industry-relevant technology. They also recognize basic scientific research as an essential element in future development, as long as it is potentially relevant to economic innovation, and acknowledge the importance of effective dissemination of information about university research and development efforts. Some economic plans also mention the contribution that higher education can make in researching basic education issues, and providing the rest of the educational community with help in the areas of pre-K-12 and vocational education reform and innovation.

Public/private partnerships: In this area, most of the statewide planning is focused on private enterprise/government partnerships, but some plans also enlist the participation of higher education in efforts such as technology commercialization, internship and training programs developed in partnership with the private sector, industry-driven but publicly funded research and development programs, and university-based business incubator projects.

Development of all educational sectors in relation to industry needs: Several state plans look to the higher education system to strengthen the relationship between education and career preparation by consciously developing connections among all educational sectors. Public four-year institutions will need to interconnect with community, vocational, and tribal colleges to provide the training that employers and employees will demand. They also will need to develop their extension units, off-campus, and distance education resources to meet the need for basic and career education of a variety of students. It is also important to establish and improve higher education/K-12 partnerships, interstate and regional networks that increase educational options, and continuing education programs for both skilled workers and professionals.

Attracting new business and industry: Finally, statewide economic development plans see higher education playing a role in attracting new business and industry to the states by improving the general quality of life, providing highly-skilled, well-educated workers, and contributing to an international, cosmopolitan orientation.

ECONOMIC CHALLENGES OF THE NEAR FUTURE

As Viewed by Higher Education

From the point of view of the public higher education master plans and vision statements provided for this review, the dominant economic challenges for western states over the next two decades will be to compete in an international economy; respond effectively to employment needs that will result from the shift away from basic agricultural, resource, and defense industries toward service, information, trade and technology industries; and at the same time help states respond to increasing public needs as federal support declines and states must assume more of the financial burden for social services.

The western states will need a better-educated, more highly trained workforce, with specialized skills for new industries. They will also require continuing product and market research and development leading to a more diversified industrial base focusing on technology and information-based industries.

As Viewed by Economic Development Departments

From the point of view of the state economic development plans, the general economic challenge for western states over the next two decades will be to raise, sustain, or equalize prosperity for their citizens. The most commonly suggested responses to this challenge are to attract new industry and business, develop new domestic and international markets for products and services, and most importantly, diversify the economic base in response to the migration of manufacturing jobs out of the country and the declining viability of economies based on natural resources or national defense.

The western states need to target certain new industries for development. "Value-added" natural resource industries (such as finished specialty wood or food products rather than raw timber or raw produce, or energy products for specialized uses) will replace basic

resource and heavy manufacturing industries. Industries based on human resources, such as information, financial, technical, and health services, will comprise another important aspect of the new economies.

In planning to make these fundamental changes in industrial and business approaches, most economic plans mention the centrality of developing public/private partnerships to generate jobs and new business investment, improving research and development, and providing a workforce with internationally competitive skills relevant to the new industries.

ALASKA

Alaska's Division of Economic Development links the state's economic future with the development of natural resource products, tourism, and value-added products. The explicit roles of higher education in these developments are seen as product research and workforce training, including the development of international markets and an internationally sophisticated workforce, but the economic plan does not offer any detail about how higher education might fulfill these roles. Similarly, the University System's Master Plan mentions international studies, job training, and developing University partnerships with the tourism industry, but does not go into the interrelationship between the system and the economy in any strategic or comprehensive terms.

Alaska Economic Development

The Alaska Department of Commerce, Division of Economic Development, in its *Strategic Plan: Positioning Alaska for the 21st Century* (February 1992), looks to the 21st century with an emphasis on the development of natural resource products, tourism, and value-added products, articulating four general "missions."

1. Improve the business climate
2. Enhance economic opportunities
3. Facilitate public/private partnerships
4. Better market Alaska internationally

In the plan's elaboration of these missions, it assigns higher education a relatively minor role. It explicitly "enlists" higher education only in respect to advancing economic opportunities through product and production research and development. The industries emphasized for potential development are value-added seafood, coal, energy, timber, communications, transportation, agriculture, business and management, and fisheries. An example of higher education involvement is the University of Alaska Fisheries Industrial Technology Center.

The state expects higher education to participate in training the Alaskan workforce. The plan states that higher education should "train Alaskans for infrastructure operation skills" (there is no further definition or discussion of these skills). The plan also calls for "alerting the vocational education systems" to technologies and products which Alaska may produce in the future (no elaboration on this point is provided).

Higher education is expected to help in marketing Alaska internationally, by teaching and translating the languages and knowledge of the state's international market partners.

In respect to fostering public/private partnerships, one of the plan's key goals is to "draw upon and develop Alaska's human resources and foster Alaskan hire." However, the plan makes no mention of education in the strategies planned for meeting this goal.

Alaska Higher Education

The *Alaska University System's Six-Year Plan, Revised for 1991-1994*, presents a vision for higher education that embraces three general missions relevant to economic development:

1. To promote access to education and foster the intellectual and creative growth of a diverse citizenry, develop employment skills, and equip each student with the critical abilities required to understand and manage change.

2. To serve as a policy forum in natural resources management, maintenance of environmental integrity, and rational economic development.

3. To maintain the currency of vocational, technical, and professional programs through close alliance with business, industrial, and governmental sectors which require the services of a well-educated and well-trained workforce.

The system bases its plan for meeting these three long-term goals on the public expectation that the university system should:

- Deliver vocational and technical programs which provide both job training and skills enhancement.

- Lead in researching key K-12 educational questions and in creating more effective K-12 professional preparation.

- Support international studies and experiences, as the state expands its initiatives to develop world markets for Alaskan products, technology, and services.

- Enhance research in global climate change, environment, and natural resource issues and their socioeconomic causes and effects.

- Address citizen deficiencies in math and analytical skills, science and technology understanding, and the ability to address world problems.

- Meet an increasing demand for career-oriented education, particularly in the fields of education, engineering, business, applied management, natural resource management, computer science, health services, and applied technology.

The *Plan* proposes the following strategic responses to the above goals and demands:

- Include multicultural/international perspectives in courses/curricula.

- Strengthen the effectiveness of vocational/technical education.
- Work with school districts to communicate college prep requirements and to increase student awareness of postsecondary vocational/academic opportunities.
- Offer educational opportunities and services to working adult students.
- Provide technological expertise for economic and energy needs, renewable resource management, and petroleum and mineral resource development.
- Develop public/private strategies for development and job training.
- Strengthen research in circumpolar/North Pacific natural phenomena.
- Lead and assist Alaska's development of international trade, marketing, and finance.
- Strengthen agriculture/natural resource management to promote growth and maintain environmental quality.
- Expand partnerships between the University and the tourism industry.

ARIZONA

From the economic development plan's perspective, Arizona's future well-being will depend on the state's ability to make a fundamental transition from an economy based on natural and physical resources to one based on human and technological resources. The transition will require higher education's participation in all sectors of education, in order to help build the intellectual and social foundations for the necessary development of human resources. The same general objectives are echoed in the goals of the Arizona higher education system. However, the system's strategic plan treats them only in broad vision terms, including as one of its five major "directions" the enhancement of economic development and public service.

Arizona Economic Development

In April 1991, the Center for Economic Competitiveness prepared *Arizona at the Crossroads: Strategic Assessment* for Arizona Strategic Planning for Economic Development (ASPED). ASPED is a partnership of the Arizona Economic Council, Greater Phoenix Economic Council, Greater Tucson Economic Council, the Enterprise Network, and Arizona Department of Commerce. ASPED used the 1991 assessment report as the basis for a statewide strategic planning process that resulted in the March 1992 statewide plan, *Creating a 21st Century Economy: Arizona's Strategic Plan for Economic Development.*

Arizona at the Crossroads reported that Arizona has experienced rapid growth in both population and jobs, but that "employment growth has been characterized by low-paying jobs, below-average income, and above-average reliance on passive income." The assessment identifies four major external factors—national economic restructuring, global competition, the collapse of national economic borders, and defense restructuring—which constitute a new environment for Arizona's economy, requiring a transition "from an economy driven by population growth toward an economy that prospers by adding value to products and services through innovation and higher productivity."

The report states that the required transition will mean making "critical choices that shift policies and private practice from a primary focus on natural resources and physical infrastructure as the source of wealth creation toward an emphasis on human resources and the soft infrastructure of education and technology." However, at the time of the assessment, the report noted, there were "indicators that Arizona's skilled human resource base is getting weaker."

- High school graduation rates well below the national average and declining.
- Minority groups and rural areas seriously lagging in educational achievement.
- Slipping availability of skilled workers.
- Arizona falling behind in professional human resources (scientists, engineers).

Further, in the area of research and development, Arizona was judged to have an "eroding advantage" because its relatively strong university basic research was not matched by an applied research and development base; its defense-related research and development was weakening; and it possessed a less developed climate for technology commercialization than other states.

The economic plan based on the 1991 assessment, *Creating a 21st Century Economy: Arizona's Strategic Plan for Economic Development* (1992), has more to say about education and the economy. The strategic economic development plan is based on three basic elements: (1) developing quality (i.e., higher-paying) jobs; (2) creating nine "industrial clusters;" and (3) building economic foundations. The economic foundations include "skilled human resources" and "accessible technology," each of which involves higher education.

The *Plan's* strategies for developing human resources start with:

- comprehensive statewide planning for major improvement at every educational level.
- public/private training and retraining program utilizing the community colleges.
- broader access to education and training using technology-based delivery.
- a coordinated early childhood education system.
- an international orientation at all educational levels.
- improved higher education retention of minority groups.

In building the "accessible technology" foundation, the plan recommends:

- encouraging universities to conduct research that has economic impacts.
- developing a statewide university/industry technology transfer strategy.
- participating in the National Research and Education Network.

Arizona Higher Education

A 1987 Arizona Regents' Task Force on Excellence, Efficiency and Competitiveness published its findings and recommendations in a report entitled *No Challenge Too Large, No Step Too Small.* The report concludes that:

1. Arizona will not be able to compete effectively without an educated labor force and improvements in the transfer of research technology, as the state participates in an increasingly international economy.

2. New jobs are more likely to evolve in the service sector and require a somewhat different education than earlier or current jobs.

3. The universities must maintain a leadership role in the development of technological innovations in the information industries, biology, and synthetic materials.

The Task Force made several recommendations relevant to economic development:

- Increase minority participation and performance at all levels of education.
- Raise admissions standards and improve undergraduate education.
- Encourage and support basic and applied research.
- Improve articulation between community colleges and universities.
- Establish a matching grant program to fund economically relevant research.
- Increase size and quality of teacher education programs.
- Develop a strategic plan to accommodate increased demand for higher education services. "This planning process should evaluate all relevant factors and should involve the community colleges and other appropriate university constituencies."

Many of the Task Force recommendations are included in the *Arizona Board of Regents' 1990 Strategic Plan: Toward the Year 2000*, which presents the overall system plan and strategic plans for the three universities. System-wide "strategic directions" include improving undergraduate education, strengthening graduate education and research, extending access and improving achievement of underrepresented minority students, enhancing economic development and public service, and planning for enrollment growth. Individually, the three universities emphasized the following pertinent features in their 1990-1995 plans:

Arizona State University

- Fostering efficient technology and skills transfer to improve economic development.
- Providing economic service linkages to public, private, and non-profit sectors.
- Developing off-campus continuing education centers and programs.

Northern Arizona University

- Developing teacher education programs with special attention to underrepresented racial and ethnic groups.

- Expanding public school partnership programs.
- Providing basic and applied research in the hospitality industry, environment, rural development, business administration, and small business development.
- Promoting American Indian entrepreneurship and forest management programs.

University of Arizona

- Developing general education to prepare students for competitive job markets.
- Improving science education and teacher training, with special emphasis on underrepresented groups.
- Incorporating international studies in professional programs and encouraging international study.
- Modifying and expanding Cooperative Extension to maintain currency with a changing agriculture industry.
- Supporting research programs that can serve as a focus of technology transfer.

CALIFORNIA

In California the future of the economy, seen from the economic development point of view, will depend upon the state's ability to maintain its position as a technological leader in the global marketplace, to produce an effectively trained workforce from an ever larger and more diverse population, and meet the increasing needs of citizens and employers. Higher education's role is to help produce the necessary "human capital" as well as research and technology, by restructuring the management of all public education and improving the efficiency of higher education. In contrast, the State Higher Education Master Plan makes very little direct reference to economic development issues. Its goals are directed toward the internal challenges of creating equity, quality, unity, and efficiency within the higher education sector.

California Economic Development

Vision: California 2010, Revisited was published in August 1990 by the California Economic Development Corporation, whose purpose is "to establish a public/private sector partnership to assist the State's efforts to promote job creation through the location and expansion of major industrial and commercial investment in California." The report identifies the five major challenges in California's future as:

1. Maintaining its technological lead while competing in a global marketplace.

2. Preparing a competitive workforce as the population grows in numbers and diversity.

3. Replacing defense-related jobs.

4. Meeting higher employer demands, as the public schools' ability to adequately prepare workers declines.

5. Fulfilling increasing demands for all public services.

The report and its recommendations emphasize privatization and business perspectives. In some respects, the state is reported to have done well since the first *Vision 2010* study in 1988. But the 1990 report states that, "The most serious omission during the last two years has been our failure to reform primary and secondary education—changes we urgently need to maintain our competitiveness in a world more and more dependent on higher order thinking and learning skills."

The strategies of *Vision 2010 Revisited* include the following:

1. Create human capital. This is to be accomplished by:

    - Putting education reform at the head of the agenda, in these ways:

- Long-term restructuring through decentralization.
- Rigorous performance goals.
- Introduction of market forces such as parental choice to encourage innovation.
- Understanding of challenges and opportunities inherent in educating a multi-ethnic, multicultural student body.
- Involving parents more in school restructuring.

- Increasing the pace of higher education reform, through:

  - Increased productivity in public and private institutions, to serve a growing and diverse population without proportional increases in public spending. This can happen by better using educational technology, reducing time to degree, entering into joint development projects with the private sector, and making better use of independent institutions.
  - Internationalizing the curriculum.
  - Strengthening teaching.
  - Making a commitment to improving K-12 education.

2. Provide economic infrastructure for development. For higher education, this strategy calls for comprehensive research and development that includes science education, and policies that support investment and collaboration between industry and university.

California Higher Education

The California higher education systems employ a long-range master plan that is reviewed and revised at relatively long intervals. The current plan was originally written in the 1960s and reviewed and revised in 1987. However, in a 1992 statement, "Issues Confronting California Higher Education," the California Postsecondary Education Commission (CPEC) warns that in light of California's continuing budget imbalance, "the Master Plan for Higher Education may need to be changed."

CPEC's 1992 "Issues" statement emphasizes that changing the Master Plan to fit budget realities will mean limiting enrollments, which will hurt those who have historically had less access to higher education. This in turn will hurt the state economically, since "by the turn of the century individuals from underrepresented backgrounds will represent the majority of California's workforce. Thus, California's future economic stability is dependent largely upon the skills and abilities of these groups."

In a 1992 paper, "California's Challenge: Access and Excellence in an Era of Growth," CPEC executive director Warren Fox states that education "is essential to ... maintain the State's economic stability and potential for growth. Moreover, education is critical for developing individuals capable of successfully functioning in our increasingly technologically based 'service and information society'." While there is little debate about these conclusions, the current emphasis at CPEC is on "[T]he fundamental

issue...of...whether the missions and goals contained within the State's Master Plan for Higher Education can be maintained given the current level of state funding."

At the moment, then, the 1987 Master Plan remains the primary planning document for the California system. Several background papers were prepared by the 1987 Master Plan review committee. One paper deals with demographics and economics, describing significant changes which "have had and will continue to have important implications for the demand for postsecondary education."

1. A tremendous growth in population, reflected in greatly increasing numbers and types of postsecondary students enrolling in California's institutions.

2. A shift in economic and employment trends away from basic industries and toward service industries, especially those involving information services; by the year 2000, it is projected that 25 percent of all Californians will have service jobs.

3. High-wage manufacturing jobs have been lost while lower-wage trade and service jobs have increased, a "post-industrial" shift which produces relatively few new jobs requiring high skills and results in a prediction by some analysts of "a growing split in the workforce between those who are highly educated and highly paid professionals and those who are semi-skilled and employed at the technician level in the service sector."

Each of the 16 "Issue Papers" that also contributed to the context for the Master Plan focuses on an aspect of higher education within which questions relevant to economics are embedded, such as access, financing, faculty, budgeting, attendance, and undergraduate education. One paper (#3), dealing partially with research, notes that "there is no state agency that concerns itself with issues of overall importance to the state," and proposes the creation of a Council for Research and Technological Development. Issue Paper #4 concerns itself with linking and coordinating the K-12 and higher education systems, but does not significantly tie this relationship to questions of the economy.

Issue Paper #8 deals with vocational education and training, and explores questions such as the respective responsibilities among the sectors for vocational education, and how to balance general and specific education. Especially in regard to the last issue, there is discussion of the new job market, the demand for more flexible skills and learning abilities, and the need to expand vocational education beyond narrow traditional training approaches. There is also a relevant issue paper on adult literacy (#13) which discusses the economic ramifications of functional illiteracy.

The 1987 *Master Plan Renewed: Unity, Equity, Quality and Efficiency in California Postsecondary Education*, acknowledges some of these changes and issues in its discussion of the four major goals for the California system: system unity, equity of opportunity, quality, and efficiency. The plan makes the following more specific references to economic and workforce issues:

- Part of the goals statement regarding "equity" includes "a guarantee of equity for older, part-time students," recognizing the needs of working students. Also, the plan notes that institutions must be held more accountable for their retention rates because, "If California is to respond to the challenges of the emerging 'high tech' and service-oriented economy, then increasing numbers of its citizens must be educated to at least the baccalaureate level."

- The discussion of "quality" asserts that "the purpose of undergraduate education is to prepare students to lead full, productive, and useful lives and the flexibility to adapt to changing economic and social conditions, new work-force needs, and demands of a multicultural society. General education must therefore help students to develop critical thinking, creativity, adaptability, and intellectual flexibility."

The *Master Plan Renewed* does not discuss the broad relationship between the economy and the higher education systems in any concrete or specific policy or action terms. Aside from the above broad goals, the plan does not go into any further detail about how increased access, retention, or the improvement of general education quality will contribute to economic success or development.

COLORADO

Colorado's economic development plan emphasizes the important relationship between education at all levels and the economic vitality of the state, which is expected to depend more and more on the state's human knowledge, information, and technology resource base. Education is the most fully developed of the plan's five major strategies, although it is not integrated with the other strategies. The Colorado higher education master plan, on the other hand, does not discuss the broad relationship between higher education and the economy of the state; its goals are focused most heavily on internal system governance, finance, and program objectives.

Colorado Economic Development

The economic recommendations in *Colorado Vision 2000*, a 1989 vision statement produced by the Colorado Legislative Council, are not directly related to education. The report does express an expectation that future workers will need some kind of higher-technology preparation, but does not go into a specific discussion of what job skills, research transfer or other education-sector requirements will be involved in new industries or businesses. It recommends that higher education undergo periodic market-relevant effectiveness audits and allocate a "significantly higher" proportion of funds to retraining programs.

The Governor's July 1990 document, *The 1995 Report: Colorado's Five Year Economic Development Strategic Plan*, echoes some of the expectations of the Vision 2000, stating that "The vision Colorado should set for the 1990s includes: a skilled and highly educated workforce [and] a robust, innovative, and diversified business community that can compete worldwide and is in the technological forefront."

The *Plan* emphasizes very heavily the role of education in achieving the vision. Of its five major strategies (improving the business climate, strengthening rural competitiveness, protecting the environment, building commercial infrastructure, and improving education), "The number one strategy for the 1990s will be education." The public education system is expected to "transform itself to meet the challenge of preparing a more diverse student body for the demands of an increasingly complex and technology-based society and economy."

Among the five major strategies proposed, education is the most well developed. Sixteen of the 36 proposed initiatives in education are identified as "key" to the attainment of the plan's goals, and they are all related directly to the budget and given specific timelines in their "Action Plans." Eleven of the strategies concern higher education and involve funding, financial aid, accountability, basic skills development, off-campus programs, technology-transfer opportunities, and scientific research.

In general terms, the *Plan*'s philosophical commitment to the importance of education is unquestionable ("Higher education is Colorado's most important catalyst for economic development"), treating education and its improvement as the necessary background for

economic progress. The most specific statements about the kinds of knowledge, skills and outcomes that higher education must produce are these: "As the state and the world move more rapidly into the information age, the knowledge base of the state's workforce becomes the key to economic vitality. Higher education provides this critical knowledge base...Higher education must reach out to serve a larger share of the state's population, and it must better educate its students for a new world." The plan does not describe any further the "knowledge base," the "new world," or the expected results of higher education.

The *Plan*'s educational action plans and goals are not linked in any explicit way to the other four that are outlined for economic development. The five sets of strategies are developed and articulated independently; in most instances their goals are conceptually unrelated, and their implementation assigned to different lead agencies.

Colorado Higher Education

The 1987-1992 *Colorado Statewide Master Plan for Higher Education* is currently being revised, with the new plan to be produced by the Colorado Commission on Higher Education by the end of 1992. According to the current workplan, the revision "will focus on identifying the changes that will be necessary in academic programs, mechanisms for delivering educational services, and governance systems to best meet Colorado's higher education needs in the 21st Century... developing a clear vision of how higher education contributes to the economic and social well-being of the state."

The current *Master Plan* does not discuss the broad relationship between the economy and education, but it does include a description of some background research pertinent to the relationship between the Colorado economy and higher education. In particular, the "environmental scan" offers these observations regarding the demographic and economic forecast:

1. Slowing population growth rates; rising median age; increasing ethnic heterogeneity.

2. Greatest employment increases in health professions and other service categories such as cleaning, food, personal and protective services. Many new jobs will not require much technical competence. Young adults will compete with a highly-educated, aging baby boom generation for opportunities.

3. Increased minority high school graduate rates. Latino high school graduates will contribute the largest number of minority students who, as a group, will constitute an increasingly larger proportion of potential students in higher education.

In contrast with some of the assumptions underlying the state economic plan the environmental scan suggests that there may be, instead, a decline in high-technology jobs as fields become more and more mechanized and, therefore, more quickly saturated. New jobs may be characterized by relatively low-skill requirements, created by the increase in demand for services for older adults in health, housing, and leisure.

The environmental scan, combined with public discussions and workshops, provided the context for the articulation of three central goals for the *Master Plan*:

1. Continue developing the system's coordination, resources, and programs: 26 articulated "governance, finance, and educational programming" objectives.

2. Improve the quality of undergraduate education: nine articulated "quality" objectives.

3. Advance the state economically, through three "economic development" objectives:

    - Conduct a study that determines the current capacity and future needs of Colorado higher education to provide appropriate programming in foreign language and cultural studies.

    - Support authorization of the vocational education system to provide customized training for specific companies from economic development funds.

    - Continue to develop a partnership between the Commission and the business community for the advancement of university research activity, increasing the quality of undergraduate education and strengthening technical training at community colleges.

There is no further development or description of these objectives. The Master Plan is carried out through an annually revised Staff Workplan, which lists the titles of ongoing and special projects.

HAWAII

The Hawaii economic development plan addresses a dual challenge: to preserve the state's physical and social environment while increasing the general level of prosperity, through careful diversification of the economic base. The plan makes connections, both conceptually and in implementation terms, between achieving these goals and improving education at all levels. Higher education's roles include helping the state develop employment opportunities, as well as training the employees. The higher education master plan makes some of the same connections, but in implicit rather than explicit terms. Its seven major goals focus on improving the quality of higher education through teaching, research, access, service, and efficient internal management. Many of its strategic objectives articulate well with the state's economic concerns, especially in the area of workforce preparation and articulation among educational sectors.

Hawaii Economic Development

According to the *Revised State Plan, 1991* by the Hawaii Governor's Office of State Planning, the primary challenge for Hawaii's economy is to achieve a strong, viable economy characterized by stability, diversity, and growth, while the state also preserves its physical and social environment.

The *Plan*, in specific goals and implementation terms, proposes to meet this general economic challenge by focusing the state's planning efforts on achieving full employment and higher incomes and living standards. This is to be achieved by establishing a "growing and diversified economic base that is not overly dependent on a few industries."

The relevant education elements of the *Plan* are increasing and diversifying employment; enhancing the quality of the labor force; providing a variety of educational opportunities; and improving the quality of education.

To increase and diversify employment, the plan calls for:

- Attaining equal employment opportunities for all through affirmative action efforts.
- Providing job training and education for employment within the visitor industry.
- More effective communication between education and the private sector to develop relevant curricula and training programs for current or new industries.
- Accelerated research and development of new energy and ocean-related activities.

To enhance career opportunities and the quality of the labor force, the *Plan* calls upon education and the state to:

- Provide more vocational training in diversified agriculture, aquaculture, and information industries.
- Provide retraining programs in alternative employment for displaced workers.
- Provide more effective secondary and postsecondary career counseling.
- Allocate educational resources to the task of determining and developing industrial training curricula in career areas where high employment is expected, or where new-industry growth is desired.

More specific strategies for improving education include:

- Strengthening basic skills achievement.
- Emphasizing general education "core" requirements.
- Developing early childhood education programs and resources.
- Improving the capabilities of educators themselves.
- Increasing autonomy and flexibility in institutional decision making.
- Improving funding and delivery of educational services.
- Expanding programs and services for students with special needs.
- Improving information technology use and public awareness efforts.
- Support from higher education for employee ownership and participation in Hawaii business.

Hawaii Higher Education

The 1991 University of Hawaii Board of Regents Master Plan, entitled *A Statewide System and Beyond*, states two major goals:

1. To meet the higher education needs of an expanding population statewide, anticipating a significant foreign immigration, an increasingly multi-ethnic student body, and a 10 percent increase in public school enrollments.
2. To deal successfully with the challenges posed by the economy of Hawaii, i.e.:

- Poor education performance and high school dropout rates brought about by a declining economy, requiring the University system to help in basic skills education.

- Slow labor force growth and a rise in available service-sector jobs, requiring the University to develop new approaches to recruit and retain students who would otherwise leave school for service jobs, and, in cooperation with private industry, to make postsecondary education more meaningful for those students.

- Deliver training programs for teachers, nurses, and social workers in the field. Nursing and social work schools are coping, but the Education College currently cannot meet demand.

The University System *Plan* proposes to meet its future challenges by (1) building a more effective statewide postsecondary system, and (2) extending the University's influence throughout the Pacific world as a center of learning, professional training, research, and service. These long-term general objectives comprise seven major goals:

1. Strive for excellence in undergraduate education.

2. Continue to gain prominence in research.

3. Revitalize service to the state.

4. Enhance the international role of the University.

5. Maintain diversity by clarifying missions and coordinating campus plans.

6. Expand access to educational opportunity throughout the state.

7. Improve the organization, financing, and image of the University.

Within these broad goals, the *Plan* articulates some action items relevant to the economy:

<u>Research</u>

- Emphasize ocean, earth sciences, tropical agriculture research.
- Encourage the Social Science Research Institute to lead research efforts on local social and economic changes.

<u>K-12</u>

- Work with the Department of Education to improve public education through teacher education.
- Develop further linkages between community colleges and high schools.

Industry	•	Develop a School of Travel Industry Management to call attention to careers and forge stronger relationships with community college programs.
Workforce	•	Formulate and develop a community college plan.
	•	Develop the general education curriculum, a global perspective, and international curriculum in the community colleges.
	•	Pursue the development of community college technical and vocational programs in relation to relevant industries.

IDAHO

The Idaho economic development plan emphasizes business growth and continued prosperity, without discussing the kinds of industrial changes that the state will experience in the future. Although the plan mentions educational contributions to technological, community, and workforce development, it does not mention education in its major objectives, nor does it discuss the relationship in any broad sense. By contrast, the higher education plan is much more explicit about its relationship to economic concerns. It sees the state's economy becoming increasingly secure as it makes the transition from natural resources to technological, service and manufacturing based industries. The higher education role in the state's continued success is linked with this shift, which will require the higher education system to educate a changing population for productive roles in a changing economy.

Idaho Economic Development

The Idaho Department of Commerce produced the *State of Idaho 1991-1995 Agenda: Economic Development* based on a year-long process of workshops and surveys that involved business people, legislators, economic development professionals, community leaders, the department's advertising agency, and a marketing research and consulting firm. The publication makes no reference to representatives from education.

The *Agenda* notes that Idaho's recent economy has been successful (though uneven between rural/small town communities and larger communities), experiencing growth in manufacturing employment, in total new jobs, and in the state's general account revenues. In order to achieve continuing and more even success, the *Agenda* enumerates these five objectives:

1. To enhance Idaho's attractiveness, adopting a pro-growth attitude and improving infrastructure.

2. To expand existing business by providing technical assistance and community development programs.

3. To attract new business by implementing a marketing program and advertising campaign.

4. To create local development through state and local teamwork.

5. To coordinate tourism and international business development with private-sector advisory councils.

The *Agenda* does not mention education, other than in passing reference to:

- The fact that colleges and universities are involved in the economic development of their communities.

- The fact that in larger communities, educational facilities produce and attract talented and skilled workers.

- The commerce department's intention to help identify and utilize technological advances developed by the universities.

Idaho Higher Education

The Idaho Board of Education's 1991-1995 *Statewide Higher Education Plan* is more explicit about statewide economic concerns than the economic plan is about education. The higher education plan discusses the following aspects of recent and future state economics:

- State revenues have increased substantially and short-term prospects are bright. The increasing diversification of the economy will help to moderate cyclic ups and downs. Expansion of the manufacturing, technology, and service industries, including tourism, should mitigate the impact of fluctuations in the more traditional timber, agriculture and mining industries, lending the economy increased stability.

- There will likely be steady growth in population.

- The dominance of white males in the national job market will continue to decrease. The percentage of the workforce that is non-white, immigrant, or female will increase from 50 percent to 85 percent.

- Employers will expect an increasing level of literacy and special skills among all workers as jobs grow more complex. More than one-half of all new jobs will, for the first time, require postsecondary education.

The *Statewide Higher Education Plan* states that, in view of these conditions, during the 1990's Idaho must:

- Maintain economic growth sufficient to provide opportunities for an expanding labor force.

- Prepare workers for a changing economy in which a growing percentage of well-paid, desirable jobs will require postsecondary education.

- Continue pursuing economic diversification to help soften the blow of any downturn.

- Continue addressing the needs of rural areas that have not shared fully in the general growth in prosperity.

The education plan notes that "Business leaders regularly remind us that their companies cannot succeed in the 21st century unless educators arm the workforce not only with basic skills, but with increasingly sophisticated knowledge and the ability to adapt to change."

The *Plan* takes these admonitions to heart, recognizing that the higher education system will be called upon to respond to changing demographics, economic conditions, and demands, such as:

- The needs of older, mid-career students for relevant academic programs and student services such as financial aid and child care, added to the continuing primary responsibility for providing diverse degree programs to traditional students.
- The education and training needs of an increasingly diverse student body, who will make up a workforce in which 85 percent of new entrants will be women, non-whites, and/or immigrants.
- The needs of employers for an adequate job-applicant pool to fill positions, over one-half of which will require postsecondary education.
- The demands of industry for innovative graduates who can maintain technological competitiveness, and for technicians trained—and retrained—in increasingly complex technology.
- The need, generated by continuing technological advances, for a continually higher level of general education to prepare people for adaptation and change.

The *Plan* proposes the following five objectives for meeting these demands:

1. General education: a strong, coherent core curriculum, career-relevant course offerings and experiences, and international and foreign language studies.
2. Diversity: Increasing recruitment and retention and providing necessary support services for the success of students from all backgrounds.
3. Workforce development: strengthening the alliance between business and higher education to meet educational needs of the workforce and promote business support of higher education; providing literacy and retraining programs in the workplace; expanding use of cooperative education and vocational education.
4. Technology development: encouraging university research partnerships with business and industry, supporting the development of new business, basic and applied research, and technology commercialization.
5. K-12 Partnership: Expanding cooperation between higher education and the public schools, working together to provide a full range of educational opportunities.

Specific implementation strategies for these objectives are not provided.

MINNESOTA

The Minnesota state economic plan projects that the state will fail to compete in a newly technological, global economy unless it re-examines its three fundamental tasks, one of which is investing in education. The economic plan develops, more than most, the roles for higher education in relation to essential worker training and retraining, new educational demands being created by new populations and changing family structures, workplace innovation, and technology research and commercialization. The higher education plan, on the other hand, looks inward to issues of enrollment, funding, educational quality and access, and system management, not relating these issues to larger questions of state, regional, or national economies.

Minnesota Economic Development

The comprehensive Minnesota state economic plan, *Blueprint for Development*, is currently being revised by the Department of Economic Development and the Department of State Planning. The state uses the 1987 *Report of the Governor's Commission on the Economic Future of Minnesota* as its planning document. The Report advocates three strategies in setting new economic priorities for Minnesota as it faces new global competition: resolving the business/labor debate about the ideal business climate, addressing complacency, and "returning investment in education to the top of the list."

The challenge faced by Minnesota is composed of a declining agricultural, mining, and manufacturing base, and a slow-growing computer industry, combined with increasing globalization and continual technological change. To forestall the negative effects of those changes, the *Report* proposes that the state re-examine its "fundamental tasks—education, infrastructure, environmental protection, and the provision of a climate for entrepreneurship."

The *Report*'s five specific postsecondary education recommendation are:

1. Expanded postsecondary retraining programs for older and displaced workers, through non-traditional offerings, financial aid, marketing to adult students, and links between income support programs and postsecondary training.

2. Better academic performance and improved access, through the University of Minnesota's "commitment to focus" and continued mission and role differentiation among institutions.

3. Special attention for the needs of minority students: eliminating the "invisible two-track system" and addressing needs brought about by changes in family structure.

4. Postsecondary education/industry cooperation to provide training and retraining for an appropriately skilled workforce, and to bring innovation to the workplace.

5. State support for commercializing scientific knowledge, to link the production of higher education research with industrial know-how. This recommendation is more fully developed than the general education and workforce training recommendations, including several sub-recommendations:

   - Shifting decision-making to the University of Minnesota on how research money is spent.
   - Publishing an annual report on state spending for general research.
   - Increasing funding for research and development for technology transfer.
   - Creating a quasi-public Corporation for Science and Technology, empowered to spend money on research and transfer leading to new product development.
   - Establishing a grant program for technology transfer R&D, administered by the Corporation.
   - Establishing an outreach program, utilizing the postsecondary system, to increase business awareness of technology transfer.
   - Providing support for technology business development.
   - Strengthening the Governor's Office of Science and Technology.

Minnesota Higher Education

The Minnesota Higher Education Coordinating Board's *Report to the Governor and the 1991 Legislature*, which functions as its master planning document, focuses its attention on enrollment, funding, educational quality and access, and inter-campus cooperation and governance. The plan is inward looking, not addressing state, regional, or national economies. Instead, as with higher education systems in many states, planning is driven by institutional economics, as Minnesota faces the universal dilemma created by "increasing demand and decreasing resources."

The 1991 *Report* anticipates that the system will have to provide services to meet higher enrollments resulting from greater participation of women, minorities, part-time and older students; early enrollment of high school seniors; increased non-resident enrollment; and higher persistence levels. At the same time, the system has experienced a decrease in actual funding per full time student.

In this context, the 1991 *Report* stresses themes and issues that involve:

- Maintaining access through financial aid, better public information, and the removal of logistical and cultural/psychological barriers.

- Maintaining quality through the use of assessment, faculty development, and the wider application of Total Quality Management.

- Dealing with funding issues through more efficient management, incentive funding, and tuition changes.

The *Report* addresses also the issue of governance and mission differentiation, emphasizing the importance of inter-system cooperation and planning, and a restructuring of state-level government of the community and technical colleges. There is a brief treatment of "strategic planning," which is primarily focused on meeting the challenges posed by demographics and increasing needs. This aspect of the report responds to *MSPAN 2000*, a 1991 study of postsecondary access and needs conducted by the Minnesota Higher Education Coordinating Board. The study identified these four challenges for higher education:

1. Shifting population: increased growth in ethnically diverse populations in the metropolitan areas, but stable or decreased population statewide.

2. Decrease in statewide high school graduates.

3. Mismatch between postsecondary education capacity and population: most public institutions are located outside of the metropolitan corridor where populations will increase.

4. Deficiencies in science and engineering: investments have fallen short of attracting the number of students that the state will need.

Since the study was intended essentially to analyze the demand for higher education and the education system's ability to respond, the challenges and responses are articulated not in economic development terms but in demographic and supply terms. To meet the four challenges listed above, the study recommended that the system of higher education adjust capacity by changing distribution and use of facilities and technologies; restructure its administration through the use of regional planning and administration (ultimately reducing the number of state systems and campuses by the year 2000); achieve efficiencies through program review and reduction; expand access through telecommunications and other technologies; serve students of color by improving high school graduation rates and transition to postsecondary studies, and improving support services and campus environments; and promote science and technology education.

MONTANA

The Montana economic development plan emphasizes a shift toward a more diversified economy based on technological and specialty industries, which will require investing in workforce education. The plan's discussion of the role of higher education is limited to the need to produce better educational outcomes and industrial research. The role of education is much more fully developed in the state's science and technology plan, which involves education at every step. The science and technology plan shares many goals and strategies with the Montana state higher education plan, both of which stress the importance of a better educated, more highly skilled population to meet the demands of the anticipated global, technological economy, and both of which present relatively detailed strategies for implementation.

Montana Economic Development

In 1988 the Montana Governor's Council on Economic Development published its most recent planning document, *The Next Century: Strategies for Advancing Montana's Economy*. The plan's primary challenge for Montana is to create increased economic opportunity in a period of fiscal constraint. Increasing opportunity will involve a shift away from the state's traditional heavy reliance on basic industries, where not only are the industries declining but Montana's share of the national market has also declined. The "new" economy will be more diverse, more dependent on higher-technology and specialty industries based on natural resources and services.

The Next Century's vision of the future involves two interesting challenges for higher education:

1. The development of a diversified economy involves investment in technology and value-added processing, which brings economic "recovery" in terms of sales and production costs, but less and less labor-intensive production. Hence, employment in traditional industries that have moved to new processes and products "may never again reach previous levels, much less grow beyond them."

2. Employment in Montana will depend increasingly on small innovative companies, which will need a "work-ready labor force," people trained as entrepreneurs, state training programs, and new technologies and innovations from the research universities.

The plan recommends that the state make "workforce investments." One of these investments is enhancing educational attainment and skills by re-focusing on educational outcomes rather than inputs. Another suggested investment is to provide education and training for welfare recipients.

In terms of making entrepreneurial investments, the plan calls upon the state to "harness the resources of higher education" by raising teaching and research standards through performance-based rewards and outcome-based management. Further, it asks that higher

education develop research capacity by targeting a small number of potential fields of investigation, and to strengthen its links with business.

Science and Technology Policy and Plan

While the above statewide economic development document makes little specific reference to higher education, the Department of Commerce economic development programs include both the development of a strategic economic plan and the Montana Science and Technology Advisory Council, which published in June 1991 a *Montana Science and Technology Policy and Plan*.

This document is relevant and important to higher education. It is based on the position that "intellectual capital—workforce 'know-how'—is the most critical resource in the new technological economy, and its development is a key dimension of this plan." The policy emphasizes not only the role of the University of Montana, but also the participation of the tribal colleges and Montana State University, "to develop a critical mass of talent in science and technology fields that relate to the needs of industry."

More specifically, the *Science and Technology Policy and Plan* calls for action in the following areas:

- Develop Montana's current leadership in K-12 science, math, and technology education and advanced communications and information processing technology, by upgrading telecommunications networks and targeting parents with a technology awareness program.

- Develop stable continuing university support, especially for seeding fundamental research in areas that support industry and economic progress.

- Improve the quality and relevance of the vo-tech centers and tribal colleges through industry involvement in job-specific training curricula and resource sharing.

- Increase public awareness of economic realities and higher education's contributions.

- Improve the transfer of university expertise and technology to the public, through expanding the use of existing telecommunications, to integrate institutional resources in the following areas:

    - a new partnership between K-12 and the universities.
    - undergraduate education, graduate education and in-service professional education.
    - lifelong learning for skill maintenance and career changes.
    - science base for research at institutions of higher education.
    - research and development (improved access to facilities, equipment, personnel).
    - industry support and service activities (commercialization).
    - interstate and regional networking.

The *Science and Technology Policy and Plan* also points out that the state's very strong, well-funded K-12 system is not matched at the postsecondary level, where funding increases are low, access to telecommunications and shared resources is limited, and teaching facilities and equipment are "inferior to those that many students used in high school." Deficiencies need to be addressed by all concerned, requiring not only state funding but industry support, external research funds, and the removal of barriers to increased competitiveness and entrepreneurial development.

Montana Higher Education

The Montana Education Commission for the 90s and Beyond published its findings in a September, 1990 report entitled *Montana Crossroads: Montana Higher Education in the 90s*. During April and May 1992, the Commission will review this master plan and report on progress made.

The higher education plan presented in *Montana Crossroads*, intended to "achieve a more relevant and substantially restructured system by the year 2010," proposes to address the challenges noted in the *Montana Science and Technology Policy and Plan* discussed above:

1. Movement toward a new, global, highly technological economy in which "the competitive edge must reside in the caliber of the workforce," and which will create "unparalleled demands for educated people."

2. A state economy that is becoming diversified, depending less upon traditional extraction industries and more on services and entrepreneurship.

Montana Crossroads points out that along with these shifts in the economy come implications for education: the six largest industries in Montana now are completely reliant on people's skills, dexterity, and knowledge—characteristics that all lie within the responsibility of the educational system and involve the full educational spectrum. In order to meet these challenges, the report recommends the following goals and strategies for a newly restructured higher education system:

- Develop assessment criteria and methods.

- Form a more integrated education system from kindergarten through graduate school.

- Improve credit transfer between K-12, vocational-community-tribal colleges, and public and independent four-year institutions; develop telecommunications and distance delivery; and increase outreach.

- Maintain and expand research and service programs to meet economic and community development needs; and participate in long-range state planning.

- Through emphasis on general education and assessment practices, place stress on:
    - basic skills and developing the student's capacity for adaptation to change.
    - solid grounding in science and technology.
    - international study opportunities.
    - access to lifelong learning and relevant on-the-job training.

The report concludes with a statement which strongly echoes the conclusion of the *Montana Science and Technology Policy and Plan*: "In the end, the state is receiving high productivity from its post-secondary institutions, but in terms of adequacy and quality, major components of the system are teetering on the brink of a crisis.... without deliberate change in the form of increased funding support to at least the average of comparable institutions in the region, the system will not be able to offer a high quality of education for Montana students, much less exert a positive force in shaping Montana's social and economic future."

NEVADA

The Nevada economic development plan projects that the state's economy will become more dependent upon globally competitive, technologically sophisticated industries, and that education will play an important role in training the workforce and attracting new businesses. The plan addresses all levels of education, and articulates in some detail the roles that higher education should play in coordinating secondary and postsecondary training, as well as providing superior research. The Nevada higher education system plan also stresses the importance of research and workforce training that respond to the needs of the state, although these connections are not developed in any specific terms in the higher education plans.

Nevada Economic Development

The 1985 *Nevada State Plan for Economic Diversification and Development*, based on a study done by the University of Nevada System for the Commission on Economic Development, is currently being revised, to be completed by October 1992. The existing plan proposes a program to meet the future challenges of a global, highly technological economy by "assuring training and venture capital for small businesses and financially supporting the role secondary and higher education plays in training the labor force and attracting high-tech and other industry." Among the major strategies devised to accomplish diversification and development are:

- A wage strategy to promote industrial/commercial development that will attract highly paid workers and coordinate all levels of the educational system to provide workforce and training programs.
- A private investment strategy that includes a well-defined private/public partnership.
- Public investment concentrated on long-term development, including investment in the educational system.

The *Plan* reports that "Nevada's educational system operates at all levels—elementary, secondary, and higher education—with the lowest [per capita] funding in the United States... The deficiency is visible" and constitutes an "obstacle to diversification." The *Plan* recommends the following three responses:

1. Additional state support of the K-12 system.
2. Responsive occupational training based on a partnership of business, industry and education, to include:
    - Budgets that allow high schools and community colleges to add skill-based training courses.

- An instructional system to link occupational training programs in grades 10-14, high school and community college, coordinated by the State Board of Education and the University System.
- State/university subsidized specialized technician training programs provided at business sites by community colleges and high schools.

3. Higher education should achieve excellence in engineering, sciences, business, mining and agriculture, as well as maintaining competitive accredited programs in all disciplines. This requires:

   - Legislative commitment to nationally competitive salaries for replacement faculty members.
   - Replacement of aging equipment and facilities, and attention to operations costs.
   - Executive and legislative commitment to educational excellence through:
     - Construction of a School of Engineering at UNLV.
     - Faculty recruitment and program establishment to directly interface with federal defense and U.S. Department of Energy activities.
     - Funding levels comparable to those of border states.
     - Product development research at the Desert Research Institute and campuses.
     - Establishment of a joint industry/university research and development fund for new products.
     - Continuing education programs in engineering and post-baccalaureate programs, made available in places convenient to working professionals and using telecommunications.

Nevada Higher Education

The *University of Nevada System Planning Report 1991-1995*, and the January 1992 *Strategic Directions for the University and Community College System of Nevada*, deal with the entire higher education system in Nevada.

The *Planning Report* commits the system to "providing an educated workforce for industry and commerce as well as an informed citizenry for public service and the general welfare," by:

- Providing quality education for a changing student body, including more minorities, fewer traditional college-age students, and more students in urban areas.

- Supplying a productive workforce for economic diversification and development, meeting specific occupational demands such as the nursing shortage, tailored business and industry programs, occupational training, and traditional demands for training in mining, agriculture and teacher education.

- Performing research in new technology and its adaptation to social and economic purposes.

The *Strategic Directions* plan commits the higher education system to "participate to a greater extent in the economic development of the state." In fulfilling this commitment, the plan addresses three major challenges for higher education:

1. Serving an increasing number of students, who are also increasingly diverse and underprepared, while the resources available to the system become scarcer.

2. Preparing citizens and workers for a rapidly changing state, national, and global economy.

3. Producing useful research.

The strategic directions proposed for meeting the undergraduate educational needs of Nevada's students include:

- A curriculum that embraces a global perspective and a "critical thinking" core.
- Non-traditional delivery of education services, through distance delivery and technology.
- A review of faculty reward structures.

The strategic directions proposed for higher education to participate more fully in the state's economic development are:

- Identify and meet workforce training needs.
- Identify applied and basic research needs.
- Build joint programs among business, industry, and higher education.
- Help create a healthy environment for economic diversity.

The *Plan* does not discuss the strategies involved in embarking on these directions.

NEW MEXICO

New Mexico's draft economic development goals through 1995 define the state's challenge in terms of creating jobs and increasing revenues by focusing efforts on border/international trade, rural development, technology use, and attracting new industry. The draft does not discuss the relationship of its goals and strategies to education, nor does it discuss workforce development, or higher education's role in research and development or in attracting industry. The higher education master plan, however, provides a strong statement of the responsibility of higher education to meet the economic needs of the state by responding to changing employment demands, coordinating the various sectors of education, improving technology transfer, and improving accountability to the state.

New Mexico Economic Development

The draft *New Mexico Economic Development Department Goals Through 1995* (November 1991) address the following four general "strategic thrusts."

1. Border development and international trade.
2. Targeted industry recruitment and retention.
3. Rural development.
4. Technology utilization.

These "strategic thrusts" are a response to the need to create additional jobs and revenues by:

- Developing new markets for New Mexico companies.
- Expanding the manufacturing employment base by recruiting "basic jobs" (jobs paid from dollars generated from sources outside New Mexico).
- Developing rural housing.
- Developing successful technology commercialization.
- Expanding film industry expenditures in the state.
- Integrating agricultural production and food processing as a targeted industry.
- Financing small-business start ups through public/private partnerships.
- Developing information technology and dissemination relating to economic development.

There are specific action plans and timetables for achieving the goals, but no discussion of their relationships with K-12 or postsecondary education. There is no mention of workforce development or training, or the role of higher education in technology or product research and development, or in attracting outside business and industry.

The draft goals mention the New Mexico State University Extension Service in relation to the expansion and retention of basic jobs, listing Extension as one of several agencies that could "gather data and direct efforts."

The State University is also listed as a potential partner with the Development Department in "developing a file of industrial sites and buildings available in the state" for purposes of community development.

The goal of increasing the manufacturing base also lists as a strategy: "network with other state government, university, private and public utility research efforts to ensure that economic development efforts in New Mexico have data access through many different vehicles."

New Mexico Higher Education

Planning for the Class of 2005: the 1988 New Mexico Strategic Plan for Higher Education, by the New Mexico Commission on Higher Education, places explicit and strong emphasis on the relationship between higher education and economic development. The introduction makes the point that "in order for us to have the future for New Mexico citizens that we want, we must provide for the economic development of our state [which] will not occur except as a result of concerted and consistent actions, particularly by the educational system." The plan anticipates many changes for New Mexico, including these:

- In 2005 there will be unprecedented numbers of retirees and older citizens in the state.
- Traditional agriculture and extractive industries are weakening and disappearing, and significant contraction is possible in government employment, which is 40 percent of all employment.
- Traditional minorities will become the majority population.
- Most citizens will need retraining several times to take advantage of new employment opportunities.

The higher education plan anticipates that, given these changes and others, the state must develop a diversified economy in which "technology and information-based industries must be the engine." To start this engine, "all educational institutions, from the largest four-year university to the smallest two-year college, are actively engaged" in the following four ways:

1. Working closely with the state's private sector:

   - To assist in the development of new industries.
   - To provide support for expansion of current companies.
   - To attract companies considering relocation or expansion.

2. Developing a system of technology transfer to guarantee maximum utilization of higher education research for industrial growth and development.

3. Helping to produce large numbers of new entrepreneurs to develop new companies and new industries.

4. Training a workforce to fill jobs in technology-related sectors involving the processing and handling of information and data, which requires high levels of skills and education.

Among the approaches included in the plan's recommendations are:

- Research universities should improve technology transfer to the state's economy by establishing a consortium that could provide for unified delivery and outreach, promote commercial research and development, and establish close cooperation with the state's national labs.

- Expand the role of two-year institutions to increase statewide participation in higher education up to the national average or above. More specifically, the Commission and institutions should establish or develop: ways to identify and address program and accessibility "gaps," recruitment and student support systems, articulation programs with both K-12 and four-year institutions, enrollment targets, and off-campus delivery systems.

- Higher education should work with K-12 public schools to improve student readiness for postsecondary training, teacher education, career counseling, and education research.

The plan also recommends that the statewide system adopt an accountability program in order to develop a "clear understanding of the goals of higher education and the expectations placed on students," and outlines a six-point process for doing so. However, it does not say what specific or general student outcomes might be assessed, or how outcomes might relate to economically relevant training. A recommended system of state-wide program review does include a "responsiveness to statewide needs, effect on economic development" review criterion, but does not elaborate further.

NORTH DAKOTA

The official North Dakota economic plan *Growing North Dakota: A Summary of Senate Bill 2058* does not refer to education at any level or in any context. However, *Vision 2000*, prepared by a private sector group, calls for diversification into value-added industries and specialized products for the global marketplace, and includes a brief discussion of higher education's contribution to diversification and development through technology transfer, improved extension services, and career education. The higher education system plan focuses primarily on internal system issues such as tuition, class size, access, and faculty, but also discusses its contribution to employment development and career training, technology research and transfer, and coordination with other agencies concerned with economic development. It is one of the few higher education plans that makes direct reference to economic development.

North Dakota Economic Development

A private sector group called the North Dakota 2000 Committee published a 1990 report called *Vision 2000*, which was the product of a joint effort by the Committee and SRI International Consultants. According to the report, the primary challenge for North Dakota is to diversify its economy, which is too dependent upon increasingly noncompetitive agricultural and energy endeavors. The suggested approach to achieve diversity is to move the state toward the "value-added" production of finished agricultural, energy, manufacturing and services products for more specialized niches in the global market.

The necessary components for economic diversification are identified as technology development and transfer, human capital, entrepreneurship, financial capital, quality of life, government efficiency, and obtaining greater economic impacts from educational institutions. Of those components, those that are further related to higher education in this publication are technology development and transfer, training, and education.

With regard to technology, the report suggests improving interaction between research universities and businesses in meeting the technology needs of industry, which involves:

1. Rethinking University policies in order to more effectively create, produce, commercialize and distribute basic and applied research and technology.

2. Redesigning and enhancing North Dakota State University's cooperative extension service to reflect the realities of agriculture and the state's economy.

Vision 2000 also addresses career preparation and education, calling for:

1. Refocusing higher education to expand access and provide both initial career preparation and mid-career continuing education and training, in order to meet new needs for scientific, technical, marketing and management skills.

2. Making higher education institutions into hubs of local economic activity. This requires assessing local needs, increasing state commitments to help local institutions, and raising the level of institutional accountability.

The Department of Economic Development and Finance published a 1991 brochure, *Doing Business in North Dakota*, in which the department states that "Our greatest asset is our workforce." Nonetheless, and despite the North Dakota 2000 recommendations, North Dakota's 1990 economic planning document, *"Growing North Dakota: A Summary of Senate Bill 2058,"* makes no reference to workforce development, nor to education at any level.

North Dakota Higher Education

The North Dakota University plan for 1990-97, *Partners for Progress*, is being revised, and is expected to be completed by the summer of 1992. The current version of the plan "focuses the system's attention in many ways on the economic needs of the state." These needs are not specifically described but the plan implies that they, along with the planning environment for higher education, are related to these two conditions:

1. A potential shift of public support from education to social services resulting from:

    - Declining federal funding for agriculture, highways and defense.
    - A population that is aging and possibly declining, and a decline in high school graduates, which could decrease the number of taxpayers while increasing the number of citizens needing state services.
    - Stagnant or slowly recovering economy.
    - State spending falling below inflation.

2. National competition for faculty.

Partners for Progress is primarily concerned with producing fair tuition rates, more services, fewer large classes, better access to classes, faculty restoration, and greater employment. Some of the plan's goals that relate to broader issues of economic development include:

- Preparation of every graduate for lifelong learning, including advanced understanding, appreciation and skills in critical thinking, communication, analysis, computation, cooperative problem solving, global economic participation.

- Programs for every job opportunity that requires postsecondary education.

- Establishing expected commitments for research and public service personnel at the Experiment Station and NDSU Extension service to expend toward achieving the aims expressed in *Vision 2000*.

- Providing convenient access to postsecondary education and employee training to all North Dakota employers.
- Using regional and statewide information on relevant economic development needs in all levels of higher education decision making and campus-based career counseling services.
- Tapping all resources of the system through an integrated network of campus-based programs for economic assistance, operated in cooperation with other economic development agencies.

The university master plan does not offer specific strategies or action plans to carry out its objectives, but according to the system's 1991 report to the legislature, since the master was written the system has acted to follow through in at least five ways:

1. Establishing a system committee to work in coordination with the Economic Advisory Committee to develop a strategy for implementing the *Vision 2000* recommendations that pertain to higher education.
2. Offering nursing and social work programs through interactive television, and working with other state agencies, K-12 schools, and tribal colleges to provide programs in health, education, computers.
3. Establishing 11 well-detailed programs for working closely with industries to meet training needs.
4. Signing a protocol agreement for joint research between NDSU and the All-Union Research Institute for Grain and Grain Products in the Soviet Union.
5. Creating a commercial airline pilot training program expected to lead to the creation of a new commuter airline.

OREGON

Oregon's state economic plan sees the state's main challenge as becoming globally competitive in a highly technological economy. It calls for investment in workforce training, and proposes some relatively detailed strategies for improving the educational systems in order to produce the required enduring relationships between education and employment. The higher education system did not provide materials for this review.

Oregon Economic Development

Oregon Shines: An Economic Strategy for the Pacific Century (1989) frames the major challenge for Oregon's future in these terms: sustaining economic recovery and extending it to the entire state by building capacity for long-term, well managed growth, and taking a competitive role in the growing global economy. In order to meet this challenge, the state must respond to two major sets of conditions:

1. An economy that was severely damaged in the 1980s and must now rebuild infrastructure and services that were deferred during that period, while the forest products industry continues to face reductions in employment.

2. An economy that is undergoing transition from resource-based products to more diverse manufacturing and services which require workers with high skill levels.

The general "technological revolution" in which Oregon is expected to participate further challenges the state to invest in building a workforce that is "measurably the most competent in America by the year 2000, and equal to any in the world by 2010." This means workers who will need:

- A solid foundation in the skills basic to an advanced competitive economy, i.e., the ability to think analytically, solve problems, communicate and listen, adapt to new requirements, manage oneself, and learn.

- An ability to move between education and employment.

- An ability to master and apply a variety of specialized skills.

In *Oregon Shines*, the education systems in Oregon are seen as working independently, not sufficiently responsive to the state's changing education and workforce needs. Assessment measures reflect neither the relationships among education systems nor work place concern over desirable employee skills. To address the current deficiencies in education and its future challenges, the plan recommends:

- Investment and expansion of early childhood and pre-education development.
- Education through high school to meet student and employer needs, which includes expanded use of complementary and transitional programs between high school and community colleges.
- Building an enduring education-employment link by:
    - Strengthening higher education planning, basing institutional missions on statewide needs.
    - Expanding employer awareness and use of community college training programs.
    - Including Pacific and international marketing in community colleges' small business and development and management programs.
    - Expanding postsecondary institution coordination with employers to provide structured work experiences.
    - Coordinating state and independent private higher education institutions' delivery of postsecondary education services in the Portland metropolitan area.
    - More fully including adult literacy, basic education, and continuing education in education services planning statewide.
- Developing a workforce skills assessment program.
- Establishing a forum in which representatives from the higher education system, the community colleges, and constituent institutions can evaluate the state of continuing education and develop a coordinated response.

Other relevant initiatives in *Oregon Shines* include (1) creating an international business and cultural orientation through foreign culture and language education at all levels, and (2) forming partnerships among business, labor, government, education, and environmental groups, to accomplish the efficient transfer of ideas between universities and businesses.

Workforce Development

According to the March 1992 report from the Oregon Office of Economic Development, the state has also begun implementing two important pieces of legislation that relate to human resource development: the Workforce 2000 Act and the Schools for the 21st Century Act. These legislative initiatives implicitly invite indirect participation from the higher education sector rather than direct involvement. The Schools for the 21st Century Act focuses on K-12 reform, with major attention to the reform of secondary professional technical education "to provide a broader array of educational and work opportunity for the majority of non-four year college bound students."

The Workforce 2000 Act stresses professional vocational and technical education reform by providing grants to businesses and key industries for training purposes, supporting

two-plus-two links between vocational high school and community college education, and tracking the success of training efforts.

Oregon Higher Education

At the time of this survey, there was no master planning document available from the Oregon system of higher education. The latest master plan, produced in 1987, is considered outdated and is not used for planning purposes. All current planning efforts are directed toward maintaining present programs and managing the system's institutions for better efficiency, in the face of severe cuts in state support for higher education and for the Office of Educational Policy and Planning.

SOUTH DAKOTA

South Dakota's economic development goals of building external markets, community development, attracting new business, and fostering research and technology transfer involve higher education's role in research and technology transfer. The mission statement for the higher education system presents a broader role for higher education, acknowledging the system's responsibility to provide the state and its citizens with faculty and staff expertise, broad educational access, and inter-institutional cooperation in the service of economic development efforts. The system is in the process of developing more specific statements.

South Dakota Economic Development

The South Dakota Governor's Office of Economic Development *Economic Development Action Plan* states that South Dakota's major goals for economic development are:

1. To increase demand for the state's products in out-of-state markets.

2. To assist in community-level development.

3. To attract new business to the state and provide financing for new or expanding businesses.

4. To foster university/industry research and technology transfer.

Increasing demand for South Dakota products involves cultivating international trade by utilizing network and electronic trade lead services, attending trade shows, organizing trade missions to target countries, hosting visiting foreign business delegations, and promoting the concept of international marketing and exporting to South Dakota businesses. The strategies for increasing domestic demand include participating in marketing events, providing marketing seminars, developing a "South Dakota Made" catalog, and promoting the concept of selling products under the "South Dakota Made" logo.

The second goal, to assist in community development, is to be achieved by providing intra-state information, supporting self-help programs, and helping to finance infrastructure improvements and economic development projects.

Strategies for achieving the goal of attracting business firms to South Dakota include marketing the state to attract specifically identified industries, and concentrating recruiting efforts on certain targeted states and provinces.

The third goal, to provide financing for start-up, relocating or expanding companies, is to be achieved by employing high legal and performance standards in administering programs, increasing the state's loan portfolio, and increasing financial assistance for job-

creation in small communities as well as for expanding businesses and higher-risk/higher-potential companies.

The final goal listed in the plan involves higher education: fostering university/industry research and transfers of technology that will lead to the creation of quality jobs. The strategies for meeting this goal are:

1. Approving and monitoring 24 grants per year.

2. Encouraging job creation through 24 linkages of university expertise and South Dakota businesses per year.

South Dakota Higher Education

In 1988 the South Dakota Board of Regents published a report entitled *Building South Dakota's Future: Investing in Higher Education* which put forth a plan to initiate or strengthen programs that meet the state's development needs. The plan targeted $245,000 (matched by $720,00 from the Governor) for quality improvement in the areas of (1) business education; (2) tourism; (3) chemistry; and (4) enrollment management. The Regents proposed to improve the higher education system in these ways:

- Initiate a doctoral program in chemistry at SDSU to expand existing organizations and attract more business and industry to the state.

- Implement an industrial engineering major at the SD School of Mines and Technology to enhance development of manufacturing and light industry.

- Strengthen capabilities related to international trade and investment at Northern State College.

- Develop a program in tourism at Black Hills State College.

The Regents also established a partnership, the Business/Industry Round Table, composed of higher education and business, industry, and agriculture, in order to identify the kinds of enterprise that South Dakota might best accommodate. Tagged for "substantial improvement" were high-level technical training, continuing education, job retraining, and state-of-the-art research and development.

Current Activities

The Board's new mission statement "recognizes and affirms its responsibility to serve as a catalyst for and as a resource to the economic development efforts of state and local governments." The statement enumerates three broad ways in which the higher education system meets this responsibility: providing faculty and staff expertise to state agencies and regional development efforts; providing greater access to more citizens throughout the state; and cooperating with private and tribal institutions.

The planning assumptions and challenges noted in the Regents' planning process include:

- A state economy in which non-farm and service sector employment will lead the state's growth in the next decade.
- An increasing demand for career-related education for older, part-time, geographically-bound students.
- An increasing economic diversification in the urban areas.
- A job market in which 50 percent of new jobs will require some postsecondary education, and 30 percent will require a four-year degree.

UTAH

Utah's economic development plan endeavors to increase household income by supporting and attracting business. It implicitly enlists the participation of higher education in this endeavor in regard to preparing a skilled, adaptable workforce; contributing to advances in science and technology; equal access for rural students; joining in partnerships with industry and government; and enhancing the quality of life. The higher education master plan also recognizes the impending changes to services and trade and an increasingly complex workplace. The plan sees higher education playing important roles in providing postsecondary, non-baccalaureate education, as well as scientific and industrial research and transfer, and it develops these roles in more detail than the economic development plan does.

Utah Economic Development

The 1991 *Economic Report to the Governor*, prepared by the Utah Economic Coordinating Committee, reports that Utah's economy faces the challenge of strengthening its economy and the state's ability to compete in the global marketplace. Two elements implicitly relevant to education and noted in the report's long-term projections for the state are:

1. A continued movement away from dependence on traditional extractive-heavy manufacturing-government economic base, and toward services (health, business, transportation, hotels/lodgings, banking, computers, telecommunications, trucking/warehousing) and trade.

2. The youngest labor force in the nation, growing at twice the national rate.

The *Economic Report* recommends that, in order to address these elements of a changing economy, the state should "provide an excellent education system," but also says that "this does not mean that everybody needs a college education. In fact, 80 percent of the new jobs need less than a four-year degree. It does mean, however, that some kind of formal, technical training beyond a good high school education is necessary." It does not elaborate on the specifics of that necessary training.

The report continues: "Investing in and developing an excellent education system is the single most important area of government involvement. Currently one-half of the state's total budget goes to public and higher education. The state must do everything it can to maximize the results of such a heavy investment."

The report does not make specific recommendations about how the state should maximize its investment in education, but lists some areas in which "more can and should be done" to improve accountability and competition: teacher testing, graduation tests, vouchering, alternative certification, open enrollments, magnet school options, statewide uniform testing.

The 1991 *Governor's Blueprint for Utah's Economic Future* articulates one central goal for the state: "to meet or exceed the nation's average household income by 1995." To meet this challenge, the *Blueprint* proposes that Utah (1) nurture the needs of existing business; (2) help Utah entrepreneurs take ideas from concept to market; and (3) attract business and investors from out of state.

To carry out these strategies, the *Blueprint* names as a fundamental component "a market-driven, productive workforce." To create such a workforce requires:

- Healthy workers who are technologically literate, imaginative and adaptive to change:
    - More scientists, engineers, mathematicians and computer information specialists.
    - Career education in applied technology.
    - Students who are competent in communications, and educated in the value of economic development, entrepreneurism and the free enterprise system.
    - Access to the same opportunities for rural and urban students.
    - Partnerships among education, private industry, and economic development organizations to meet the training needs of the workforce by addressing the coordination and roles of state and federal training programs, and by "developing novel methods for expanding funding for quality education."

The *Blueprint* also mentions higher education briefly in connection with other components of economic development: technology development and transfer, leadership training, and enhancing the quality of life.

Utah Higher Education

Utah's 1986 Master Plan for Higher Education, *The Challenge of Change*, asserts that there is a "vital linkage between the vast learning enterprise and its attention to access, quality and diversity, and a very basic need of Utah citizens—the long-term economic development of the state and its regions." The challenge to higher education is to continue its focus on the development of individual knowledge, skills, and character, and on extending the frontiers of knowledge, while responding to new demands for career and work preparation.

The impacts of current and anticipated demographic and economic conditions include:

- Increased college participation rates.
- Increased employment rate higher than projected population growth rate.
- Slight movement away from dependence on traditional extractive/heavy manufacturing/government economic base, toward services and trade as driving sectors in the economy.

- New dimensions being added to existing occupations: an increasing complexity and sophistication of duties and responsibilities because of new products, new tools, new "information."

- 28 percent of current and future jobs in service industries, while high technology industries will claim a relatively small but fast-growing portion of total jobs.

- Nearly one-half of all jobs require less than six months of training, 30 percent call for less than a baccalaureate degree, and 20 percent require a four-year degree or beyond. These proportions are not expected to change.

The *Plan* concludes from these findings that:

1. There will be a continuing need for a variety of vocational-technical training options, requiring statewide planning to provide offerings from adult high schools to higher education institutions.

2. There will also be a need for college degrees, which may be a prime factor in job retention and career advancement, due to the acquisition of not just technical but social skills and learning attitudes that enable employees to adapt more readily to technological and other changes in the work environment.

3. The "spin-off" effect of university research will be crucial in providing scientific leadership and a competitive edge for industry in an increasingly interdependent global economy.

4. Colleges and universities must improve outreach and extension offerings and communication among science, engineering, and technology programs and the commerce and industry user community.

These observations and conclusions are carried through in the *Plan*'s goals, where economic development is given equal weight along with quality, access, and diversity, as the four major "themes." While all four themes include goals that are implicitly relevant to the relationship between higher education and the economy, they are explicit in the economic development theme. Economic development is to be approached by:

- Developing partnerships between higher education, business, industry and government in leading and responding to economic and technological change.

- Applying faculty expertise to research and education that promotes economic development.

- Transferring the latest knowledge in science, engineering and technology to industry.

- Working closely with business and industry to identify competencies required for a productive workforce and fashioning response programs to serve training needs.

The Utah Partnership for Education and Economic Development published a report in January, 1990. According to that report, the Partnership (among education, business and government, appointed by the Regents and State Board of Education) has put the general goals and objectives articulated in the Higher Education Master Plan into action terms, and assigned responsibility for specific actions to the various sectors of public education, higher education, business and government in detailed, concrete, and comprehensive terms with action timelines.

WASHINGTON

The two major challenges for Washington's economic future are to produce economic prosperity that is more evenly distributed across the state, and to participate competitively in a new, international, technological and "value-added" economy. The economic plan relates these challenges both explicitly and implicitly to the role of higher education in workforce education, the commercialization of research, and the development of local enterprise. The higher education master plan echoes these general goals, but the biannual workplans focus more on internal issues such as assessment, funding, admissions policies, tuition, and enrollment, rather than developing the broader economic goals.

Washington Economic Development

Based on the work of several task forces, including a Task Force on Education, the Washington State Economic Development Board published its long-term recommendations in a 1988 report entitled *Washington Works Worldwide*. The report identifies the following major challenges for the state's economy:

1. Addressing the uneven nature of the recent economic recovery, which has been not been experienced equally by people in all geographic regions and across workforce sectors.

2. A new international economy in which the U.S. increasingly plays a role of "flexible specialization," producing high quality value-added natural resource products and knowledge-intensive trade products that flow through the crossroads ports of Washington.

In ways explicitly relevant to higher education, the report recommends meeting these challenges by:

- Developing a highly-educated, multi-skilled, and flexible workforce, which carries these expectations:

    - Higher education will improve research and train teachers for more highly developed K-12 programs, characterized by increased competency skills and evaluation requirements, computer-based instruction and equipment, school telecommunications systems, foreign language and culture instruction, individualized curricula, and expanded public preschool programs. The Plan recognizes that this requirement means more training and higher starting compensation for K-12 teachers, and calls for performance-based K-12 salary increases.

    - More college and university-level international education and language training.

  - Expanded roles for community and vocational-technical colleges; uniform vocational counseling; funds for retraining programs; matching training and retraining to employer needs.

- Commercializing research and development, which includes:

  - Establishing a Center for Entrepreneurial Studies.
  - Modifying university evaluation and rewards systems to allow and encourage greater faculty involvement in technology commercialization and in economic and community development.

Washington Works Worldwide further identifies needs and recommends actions that implicitly involve higher education:

1. The new international economy in which Washington will participate will require a "totally reformed industrial culture" in which management is "collaborative, guaranteeing that various aspects of production proceed simultaneously rather than sequentially," and in which the workers are "capable of understanding all aspects of the production process in order to effect continuous incremental improvements in both process and product." All of this implies creative, independently-thinking workers and managers.

2. The diversification and development of locally based, small innovative companies throughout the state, employing young people locally, calls for a greatly expanded role of vocational-technical and community colleges to train the local workforce for new industries. It also requires expanded technology research and product development on the part of the university system in partnership with local development efforts.

Washington Higher Education

The Higher Education Coordinating Board's 1987 Master Plan for Higher Education, entitled *Building A System: To Be Among the Best*, is consistent with the findings of the Economic Development Board in substantial areas, identifying the following major challenges:

1. Establishing branch campuses and telecommunications delivery systems in order to correct uneven access to baccalaureate institutions and contribute to the economic and cultural quality of local communities across the state and across socioeconomic sectors.

2. Training a workforce to think creatively, analytically, and independently, in order to meet the demands of the new knowledge-based economy.

3. Forming strong partnerships between higher education and industry, and encouraging economic development through training, research, and the effective transfer of science and technology.

4. Establishing a secondary-higher education task force to define basic competencies and subject content, and improving K-12-higher education curriculum articulation.

Although the long-term vision and goals of the Master Plan are highly relevant to economic development, the action plan put in place in 1987 and updated biannually relates less directly to the Economic Development Board's objectives. Recommendations and workplans focus HECB efforts primarily on:

- Developing a plan to open branch campuses to improve access to baccalaureate programs statewide.

- Crafting a new funding approach to bring Washington higher education into a range comparable with other institutions, in order to guarantee the continuing quality of education.

- Conducting performance evaluation of institutions (assessment).

- Revising admissions policies to ensure that institutions are differentiated and that students are admitted to the schools where they have the best opportunity to succeed academically.

- Revising tuition, fees, and financial aid policies.

- Increasing minority participation in higher education.

- Expanding enrollments.

The envisioned partnerships between business and higher education, and between higher education and K-12 schooling, were not addressed in action terms by the Master Plan. Similarly, none of the Plan's recommendations tie directly back to the entrepreneurial development of technology and science.

The economic development plan and the higher education plan also diverge in significant ways. Generally, the issues of most concern to the Master Plan are not of direct concern for the Economic Development Plan. The plans address two different sets of challenges. More specifically,

1. The higher education plan does not address teacher-preparation, internationalization, or reward systems. The Master Plan is silent on the role of community colleges and the potential for the higher education system to become more involved in vocational-technical training and retraining.

2. The economic development plan does not deal with the participation of underrepresented groups in education, training or business development, or with institutional accountability.

WYOMING

Wyoming's economic development plan challenges the state to improve economic opportunities by diversifying the economic base. Higher education's role is quite limited in this plan, referred to in relation to providing information and research. There is no discussion of workforce training or education as a central aspect of economic development. The university system's agenda articulates a direct connection between the state's economy and the university. The agenda focuses largely on general improvements in quality at the University, many aspects of which are directly or indirectly relevant to the institution's contribution to economic development, but most of which do not overlap significantly with the economic development plan.

Wyoming Economic Development

The 1989 *Wyoming Economic Development Plan*, by the Economic Development and Stabilization Board, expresses as its main goal the "improvement and maintenance of an economic environment conducive to the retention, expansion and development of business interests which will provide increased diverse, quality employment opportunities... and to assure that the citizens and their respective private and public institutions are prepared to take advantage of those opportunities." In order to carry out the goal, the plan sets out certain themes concerning regulatory structures, technical and financial assistance, information services, innovation mechanisms, and coordination among development interests.

The priority objective of the plan is diversification of the state's economic base, and the components of the development plan are:

1. Marketing, in which higher education plays no role.

2. Capacity building. In connection with this component, higher education is mentioned in terms of the following roles:

   - The University of Wyoming regularly provides advisory services in local organization development.

   - The community colleges and vocational schools provide vocational training. In this regard, the plan suggests that customized training programs also be established to meet the needs of new businesses that require skills not available from traditional programs. The plan expressed the intention of accomplishing the necessary groundwork for this objective by April 1989.

3. Business retention/expansion. Here, the University of Wyoming and community colleges participate by:

   - Providing small business information for the Economic Development and Stabilization Board's business advocacy program and comprehensive business start-up guide.

   - Providing technical assistance to the business community through university-based research support programs to assist in gaining greater market share, transforming products to meet changing demands or increase cost effectiveness. These include programs such as The Enhanced Oil Recovery Institute, Wyoming Center for Energy Research and the Wyoming Water Research Center.

4. The new business development component involves higher education in:

   - Research in technological fields which have the potential of being applied or transferred to commercial endeavors, thereby creating new, quality employment opportunities.

   - Business incubator projects.

   - The establishment of the Science, Technology, and Energy Authority (STEA), now in place at and heavily sponsored by the University of Wyoming, to broker research projects which emphasize applied technological research aimed at developing new products and processes to be produced or used by private businesses for a profit. For example, the 1991 STEA research proposals include developing:

     - A portable sheep shearing trailer that allows shearers to add value to wool by removing impurities.
     - Better injection molding processes through innovative software/data system.
     - The potential to maximize oil production from different types of reservoirs.
     - A new market for coal by-products in road construction.

5. Coordination and leadership. The Plan does not mention education in this component.

Wyoming Higher Education

The Community Colleges

No planning documents are available for the Wyoming community college system. The Community College Commission is currently assessing the needs of its service areas and

the performance of each community college. The legislation mandating this review also articulates the mission statement of the community colleges, as follows:

"The community college commission has proposed and the legislature hereby approves the following mission statement: The mission of Wyoming's community colleges is to provide access to post-secondary educational opportunities by offering broad comprehensive programs in academic as well as vocational-technical subjects. Wyoming's community colleges are low tuition, open access institutions focusing on academic transfer programs, career and occupational programs, developmental and basic skills instruction, adult and continuing education, economic development training, public and community services programming, and student support services."

The University System

Agenda 2000, the University of Wyoming's goal statement published in 1988 and updated in 1991, articulates a direct connection between the state's economy and the University: "If we in Wyoming underutilize our University or under invest in its future, we jeopardize our ability to recover in the regional, U.S., and world economies." *Agenda 2000* focuses largely on general improvements in quality at the University, many aspects of which are directly or indirectly relevant to the institution's contribution to economic development. For instance,

1. The effort "to expand the quality and richness of instruction" includes among its objectives:
    - Establishing an optional Commerce and Industry career minors program for liberal arts students.
    - Providing international educational travel and study opportunity for 25 percent of undergraduates.
    - The Career Exploration Opportunity Program, placing students in internships.
2. The goal "to increase faculty and student participation in research and creative activities" includes:
    - Increasing joint research between the University and the Wyoming Research Institute.
    - Enhancing existing interdisciplinary centers and institutes, which include Enhanced Oil Recovery, Composite Materials, Western Earth Sciences Technology, Red Buttes Environmental Biology Lab.
3. The goal to expand access to underserved groups includes:
    - Expanded outreach through telecommunications, and video delivery.

- Cooperative agreements with community colleges to deliver one or more undergraduate degree programs at each off-campus location, and graduate-level instruction for selected programs.

4. Efforts "to act as a partner with the private sector and government in revitalizing Wyoming's economy:"

   - Participation in the state Experimental Program to Stimulate Competitive Research Advanced Development Program (EPSCoR ADP) Committee, as well as providing expertise to that committee and to the South/West Energy Council.

   - Participation on the Economic Development and Stabilization Board and in the Science and Technology Energy Authority, the beginning of University infrastructure to contribute to economic development research.

APPENDIX: SOURCES AND METHODS

In July, 1991, WICHE began collecting statewide planning documents by contacting the State Higher Education Executive Office and the economic development department in each state. In November and December, 1991, WICHE contacted the states that had not yet sent any documents, and began reviewing the materials that were available. In April, 1992, when WICHE again contacted every state in the region and asked for updated materials, several states provided new plans, and other states reported on the planning in which they were engaged at that moment. The researcher asked all states to provide WICHE with the most recent and most broadly comprehensive statewide planning documents available. For the final analysis, 48 planning documents from the WICHE states were selected and summarized.

Most state higher education systems provided a statewide higher education planning document (e.g., a master plan, an update and report tied to a master plan, or a systemwide strategic plan). Most commerce/economic development departments provided statewide plans and reports, and some also sent program or promotional descriptions of the business opportunities in their states. Some economic development documents came from private sector groups engaged by a state to conduct studies and devise strategic plans for the state to use. The review does not summarize every document provided by the states, only those that represented the most broadly comprehensive, most current statewide planning activities. Sometimes, when a master plan or statewide plan contained too little material pertinent to this review, other documents, such as background papers or progress reports, were included.

The documents were reviewed with an eye toward noting the ways statewide higher education plans articulate and address concerns with economic planning and development, and in what ways the economic plans articulate and address concerns with educational planning and development. In order to review such a disparate collection of documents at least somewhat systematically, the researcher read each report or plan with the same few, simple, straightforward questions in mind. First, how did the document characterize the major economic challenge(s) for the state over the next decade or two? Second, what primary, long-term, statewide goals for economic development did the document propose in order to meet the state's major challenge(s)? Third, what kinds of short-term strategies did the document propose for meeting those goals? And fourth, what did the plan say, explicitly or implicitly, about what role higher education can or should play in either the strategies or the goals?

Because the methodological emphasis was on brevity and on pulling out the references to higher education and/or to the economy, the resulting summaries do not reflect the balance of issues and strategies in the plans themselves. That is, these summaries give the impression that there is more focus on education than there is in the economic plans; that there is more weight given to economic goals than there actually is in the education plans. As one would expect, with a very few notable exceptions (Colorado's economic plan, for instance), most economic plans give much more weight and attention to noneducation

topics than to education topics, and the reverse is true for the education plans. The summaries are not intended to represent a balanced distillation of the plans.

LIST OF SOURCES ON STATEWIDE ECONOMIC DEVELOPMENT

The information about state economic development was provided by the following:

Alaska — *Strategic Plan: Positioning Alaska for the 21st Century*, published in 1992 by the Alaska Department of Commerce & Economic Development.

Arizona — *Creating A 21st Century Economy: Arizona's Strategic Plan for Economic Development*, published March 1992, by MicroAge for ASPED. (ASPED = Arizona Strategic Planning for Economic Development, which is composed of the Arizona Economic Council, Greater Phoenix Economic Council, Greater Tucson Economic Council, Enterprise Network, Arizona Department of Commerce.)

Arizona at the Crossroads: Strategic Assessment by the Center for Economic Competitiveness, April 1991 for ASPED.

California — *Vision: California 2010 Revisited*, published in August 1990 by the California Economic Development Corporation (CDEC). CDEC is a nonprofit group directed by a 50-member board appointed by the governor, one of whom is an academic leader (President of the University of California). The nine-member "working committee" included two professors (in the disciplines of management and city planning) from Berkeley. The 14 "consultants" include nine members from higher education.

Colorado — *The 1995 Report: Colorado's 5-Year Economic Development Strategic Plan* by the Office of State Planning and Budgeting.

Colorado Vision 2000, a 1989 vision statement produced by the Colorado Legislative Council.

Hawaii — *The Hawaii State Plan, 1991*, by the Office of State Planning.

Idaho — *State of Idaho 1991-1995 Agenda: Economic Development*, published by the Idaho Department of Commerce and its advisory council of representatives from business, government, economic development professionals, and community leaders.

Minnesota *Report of the Governor's Commission on the Economic Future of Minnesota*, 1987.

Draft Science and Technology Policy Proposal, drafted in 1991 by the Humphrey Institute of Public Affairs at the University of Minnesota.

Montana *The Next Century: Strategies for Advancing Montana's Economy*, December 1988, Governor's Council on Economic Development.

Montana Science and Technology Policy and Plan, published in June 1991 by the Montana Science & Technology Advisory Council, composed of 11 members including four representatives from private industry-one unidentified, and 6 representatives from higher education institutions.

Nevada *1985 Nevada State Plan for Economic Diversification and Development*, published by the Commission on Economic Development, and based on a study by the University of Nevada. The Commission on Economic Development is composed of the Governor and Lieutenant Governor, and six representatives from business and industry.

New Mexico *Draft New Mexico Economic Development Department Goals Through 1995*, by the Department of Economic Development.

North Dakota *Growing North Dakota: Summary of Senate Bill 2058*, 1991.

Vision 2000, published in 1990 by the North Dakota 2000 Committee, a private sector group, and SRI International Consultants. North Dakota 2000 Committee is composed of 28 members: 22 from the private sector, one from medicine, four from public education, one from the nonprofit sector.

Discover the Spirit: Doing Business in North Dakota: The Details, by the Department of Economic Development and Finance, 1991.

Oregon *Oregon Shines: An Economic Strategy for the Pacific Century*, published in 1989 by The Progress Board, Oregon Economic Development Department.

Report of the Oregon Office of Economic Development, March 1992.

South Dakota *Economic Development Action Plan*, by the Governor's Office of Economic Development.

Utah

Governor's Blueprint for Utah's Economic Future, Policy Statement 1992, by the Department of Community and Economic Development.

1991 Economic Report to the Governor by the State Economic Coordinating Committee, which is composed of the Utah State Office of Planning and Budget, Department of Employment Security, Department of Community and Economic Development, State Tax Commission, Utah Energy Office, University of Utah Bureau of Economic and Business Research, and the First Security Bank Corporation.

Washington

Washington Works Worldwide, a 1988 report of the Washington State Economic Development Board, composed of 25 members: five legislators, six government agency directors, 11 from the private sector, one from the nonprofit sector (environment), one from organized labor, and one from higher education.

Wyoming

Wyoming Economic Development Plan, published in 1989 by the Economic Development and Stabilization Board.

LIST OF SOURCES ON HIGHER EDUCATION

Alaska

Six-Year Plan, 1991-94 by the Alaska University System.

Arizona

1990 Strategic Plan: Toward the Year 2000, by the Arizona Board of Regents. This covers the three universities only, not community colleges, for which there is no system plan.

No Challenge Too Large, No Step Too Small, a report of the 1987 Arizona Board of Regents Task Force on Excellence, Efficiency and Competitiveness.

California

The Master Plan Renewed: Unity, Equity, Quality, and Efficiency in California Postsecondary Education; 1987 Report by the Governor's Commission for the Review of the Master Plan for Higher Education, composed of 18 individuals appointed by the Governor, the legislature, and the five sectors of public education.

Background Paper #2 for the 1987 Master Plan Review

Issue Papers #3, #4, #8, and #13 for the 1987 Master Plan Review

Preparing for the 21st Century, a 1988 report prepared by CPEC for the Organization for Economic Development and Cooperation. Chapter 5: "Higher Education and the Economy."

	"Issues Confronting California Higher Education" by CPEC, 1992
	"California's Challenge: Access and Excellence in an Era of Growth" by Warren Fox, Executive Director, CPEC, 1992.
Colorado	*Colorado Statewide Master Plan for Higher Education, 1987-1992*, by the Colorado Commission on Higher Education staff.
Hawaii	*A Statewide System and Beyond*, the 1991 University of Hawaii Board of Regents' Master Plan (January, 1991).
Idaho	*1991-1995 Statewide Plan for Higher Education* by the Idaho State Board of Education, published 1990.
Minnesota	*Report to the Governor and the 1991 Legislature, January, 1991*, by the Minnesota Higher Education Coordinating Board.
Montana	*Montana Crossroads: Montana Higher Education in the 90s*, published in 1990 by the Montana Education Commission for the Nineties and Beyond.
Nevada	*University of Nevada System Planning Report 1991-1995*, published by the University of Nevada System Regents.
	Strategic Directions for the University and Community College System of Nevada; January 1992, by the Regents of the University and Community College System of Nevada.
New Mexico	*Planning for the Class of 2005: The 1988 Strategic Plan for Higher Education* published by the New Mexico Commission on Higher Education.
North Dakota	*Partners for Progress*, the North Dakota University 1990-97 plan, published in 1990 by the State Board of Higher Education.
	Guide to the North Dakota University System, prepared by the North Dakota University System Staff for the 1991 Legislature.
Oregon	No documents available

South Dakota	*Building South Dakota's Future: Investing in Higher Education*, published by the South Dakota Board of Regents.
Utah	*The Challenge of Change: the 1986 Master Plan for Higher Education* published by the Utah State Board of Regents, 1986.
	Report of the Utah Partnership for Education and Economic Development, January 1990, composed of representatives from business, education, and government
Washington	*Building a System: To Be Among the Best*, the 1987 Master Plan for Higher Education and its *1990 Update*, published by the Higher Education Coordinating Board.
Wyoming	*Agenda 2000*, the University of Wyoming's goal statement issued in 1988 and updated in 1991, published by the University of Wyoming President's Office.
	"Mission statement" of the Wyoming Community College Commission.